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### Preparation of mulaka (*Raphenus sativus* linn.) Kshara - a practical approach

Sujata Waddar <sup>1</sup>, Prasanna N Rao <sup>2</sup>, BJ Gopi Krishna <sup>3</sup>, Arun Raj GR <sup>4\*</sup>, Shridhar Waddar <sup>5</sup>

1. Post graduate Scholar, Department of Post graduate studies in Salya Tantra, Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India
2. Principal and CMO, Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India
3. Associate Professor and Head, Department of Post graduate studies in Salya Tantra, Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India
4. Post graduate Scholar, Department of Post graduate studies in Kaumarabhritya, Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India  
\*[Email: [drdrarunraj26@gmail.com](mailto:drdrarunraj26@gmail.com), Tel: 8904994413]
5. Post graduate Scholar, Department of Post graduate studies in Salya Tantra, Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India

*Kshara Chikitsa* (alkaline therapy) is the herbal extracts of plants like *Mulaka* (*Raphenus sativus* Linn.), *Snuhi* (*Euphorbia nerifolia* Linn.), *Aragwada* (*Cassia fistula* Linn.), *Kutaja* (*Holarrhena antidysenterica* Linn.), *Vasa* (*Adhatoda vasica* Linn.) and *Arka* (*Calotropis gigantea* Linn.). *Kshara* can be a compound or mixture of many herbs or may be from single herb. *Mulaka Kshara* is a caustic alkaline preparation of the drug *Mulaka* (*Raphenus sativus* Linn.), indicated in diseases like *Mutrakrechra*, *Mutrashmari*, *Gulma* etc. There is wide range of description available about *Kshara* as told by *Acharya Sushruta* and many other authoritative classics. This alkaline preparation has many therapeutic usages and even has replaced many surgical procedures and proved to be effective in treating many disorders. The internal use of *Kshara* is advised in *Mutrashmari*, external application in *Arshas* (hemorrhoids) and in the form of *Kshara Sutra* in *Bhagandhara* (fistula in ano). The paper details the most practical way of preparing *Mulaka Kshara* for clinical use.

**Keyword:** *Kshara Chikitsa*, alkaline therapy, *Raphenus sativus* Linn., *Mulaka*, *MulakaKshara*.

#### 1. Introduction

*Acharya Sushruta* defines "*Tatraksharanatkshananadva Kshara*" [1]. The drug which has the characteristics of *Kshanan* or *Ksharan*, literally means that which destroys fleshy mass either healthy or unhealthy as *Kshara*. *Acharya Charaka* says "*Chitwachtitwaashyathksharahaksahartyadhaha*" i.e. *Kshara* is one, which scrapes the abnormal tissue from its location and destroys it after dissolving it, because of its corrosive nature. *Mulaka Kshara* has been explained in *Susruta*

*Samhita Uttara Tantra* [2] in the context of "*GulmaPrathishediyaadhyaya*" which is a powdered preparation of *Mulaka Bhasma* and *Jala*.

The classification of *Kshara* can be done in various ways on the basis of;

- Administration- *Paneeya* and *Prathisaraneeya* [1]
- Concentration- *Mrudu*, *Madhyama* or *Teekshna* [1]

As per preparation Kshara is a caustic material obtained from ashes after distillation and are alkaline in nature. *Kshara* derived from the combination of different kinds of drugs only is repository of all tastes with combination of *Katu* (pungent) and *Lavana* (salt) *Rasa* possess properties which are penetrating and hot in potency, besides performing the action of *Dahana*, *Pachana*, *Vidharana*, *Vilayana*, *Shodhana*, *Ropana*, and *Krimiamamedovishanashaka*. It is considered to be best among all the *Shastra* and *Anushashtras* (major & minor sharp instruments) and is fit to be used in place where sharp instruments can be used with difficulties like nasal polyp, malignant tumours etc. where treatment by *Shashtras* is not advised. The mentioning of *Kshara* is found only in post-Vedic literature. The *Charka Samhita* only refers to *Kshara* [3], while the detailed description of its preparation, classification, indication and contraindications are available in *Sushruta Samhita* [1]. Success can even be obtained by its use even in disease which are difficult to cure and also because it can be used in form of drink [4]

Properties of *Kshara*: [1]

*Rasa* : *Katu, Lavana*  
*Veerya* : *Ushna*  
*Varna* : *Shukla*  
*Guna* : *Sowmya, tiksna, agneya.*  
*Doshagna* : *Tridoshagna*  
*Karma* : *Dahana, pachana, darana, vilayana, shodana, ropana, shoshana.*

## 2. Drug Review: *Mulaka* (*Raphenus sativus* Linn.) [5-6]

It is a fresh whole plant, an annual herb, cultivated throughout India. The fresh *Mulaka* is shown in figure 1. As per Ayurvedic classical literature available, it is evident that drug *Mulaka* is having much significant importance, being extensively used for its varied benefits. Almost all *Acharyas* of *Ayurveda* have referred this drug for its multiple benefits in therapeutics.

**Botanical name:** *Raphenus sativus* Linn.

**Family:** Crucifera

**Parts used:** *Mulakakanda* (tuberous root)

Properties of *Raphenus sativus* Linn.:

*Rasa* - *Katu, Tikta*

*Guna* - *Laghu, Teekshna*

*Dosha Karma* – *Tridoshahar* [5]

*Karma* - *Deepana, Pachana, Svarya, Hradya, Mutrala, Ashmaribhedana.* [3]



**Fig 1:** Showing the fresh *Mulaka* plant

## 2.1 Procedure for preparation of *Mulaka Kshara*:

100 kilograms of fresh mature *Mulaka* was taken, cut into small pieces (shown in figure 2) and subjected to dry in sunlight till all water content got evaporated (shown in figure 3), Then it is burnt to white ash (shown in figure 4, 5 and 6) and water added to the ash (shown in figure 7 and 8) in volume by volume ratio i.e. 1:6. It is then kept overnight and the next morning, liquid part decanted (shown in figure 9) and filtered for 21 times (shown in figure 10) to obtain *Gomutra varna* (colour of cow's urine). Later the same is subjected to heat on *Mandagni* till water gets evaporated (shown in figure 11, 12, 13 and 14) to obtain flakes of *Kshara* from bottom of vessel and grind to fine powder form (shown in figure 15 and 16).



**Fig 2:** Mulaka being chopped into slices



**Fig 3:** After drying under sunlight



**Fig 4, 5 and 6:** Dried *Mulaka* subjected for burn to ashes



**Fig 7 and 8:** weight of ash obtained in grams and litres



**Fig 9:** Subjected for soaking in 6 parts of water



**Fig 10:** Gomutra Varna on filtering for 21 times



**Fig 11, 12, 13 and 14:** Subjected for heating on *Mandagni* till all water content get evaporated



**Fig 15 and 16:** Kshara obtained at bottom of vessel and quantity at end of preparation

## 2.2 Observation

- 100 kilogram *Mulaka* took 20 days to dry under sunlight
- Product after drying was 5 kilogram
- Ash obtained after burning was 735 grams
- 1:6 ratio water added ( for 1.5 liters of ash 6 parts of it water added)
- After filtering for 21 times *Gomutra Varna* was seen, which was subjected for heating to obtain *Kshara*
- 284 grams of *Ksharawas* obtained at end of procedure
- So, procedure set forth determines amount of volatile matter (i.e. water drying off from drug)
- The *Kshara* preserved in cool place in tightly closed container protected from light & moisture as it is Hygroscopic in nature to prevent its evaporation.
- Dosage: 1gram daily in divided doses [7-8]
- Anupana: water
- Therapeutic usage: *Mutrkrchra* (dysuria), *Ashmari* (calculus), *Gulma* (abdominal lump) [7-8].

## 3. Discussion

As per Ayurvedic classics, *Kshara* can be given in various disorders and *Ashmari* being one among them. *Kshara* is hygroscopic and so it must be preserved in closed container. As it has “*Ksharana*” property, it gradually erodes vitiated *Kapha* and brings it down. *Kshara* is more effective in *Kapha Doshas* and is better suits to person of *Kapha Prakruti*. *Kapha* is responsible for formation of *Ashmari*. The properties of *Kshara* like *Rooksha*, *Laghu*, *Teekshna* will reduce the growth of or chance of nidus formation, hence reducing the growth of stone by inhibiting binding property of *Kapha Dosh*.

## 4. Conclusion

*Paneeya Kshara* can be given in various disorders and *Ashmari* is one among them. Due to its *Ashmarigna*, *Chedhana* and *Bhedana* and *Mutrala* property, the drug might act on *Ashmari* by changing the pH value.

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